

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

IN RE APPLICATION OF: :  
Shigeru AIHARA et al : GROUP ART UNIT:  
SERIAL NO.: New Application : EXAMINER:  
FILED: Herewith :  
FOR: BATTERY :

**PRELIMINARY AMENDMENT**

ASSISTANT COMMISSIONER FOR PATENTS  
WASHINGTON, D.C. 20231

SIR:

In advance of prosecution, please amend the above-identified application as follows.

**IN THE CLAIMS**

Please cancel Claims 3, 4 and 8.

Please add the following new claims:

-- 14. (Newly added) A battery according to Claim 1, wherein said average particle size of said filler is 1  $\mu\text{m}$  or smaller.

15. (Newly Added) A battery comprising a battery body comprising:

a positive electrode and a negative electrode each containing an active material;

a separator holding an electrolyte; and

an adhesive resin layer joining at least one of the positive and the negative electrodes to the separator,

wherein said adhesive resin layer contains an electrically conductive filler, and at least one non-electrically conductive or semiconductive filler, the filler in the adhesive resin layer providing passages through the resin layer through which ions pass.

16. (Newly Added) The battery according to Claim 15, wherein said electrolyte is an organic electrolyte containing lithium ions.

17. (Newly Added) The battery according to Claim 15, wherein the average particle size of said filler is equal to or smaller than the particle size of the active material constituting each electrode.

18. (Newly Added) The battery according to Claim 17, wherein the average particle size of said filler is  $1\mu\text{m}$  or smaller.

19. (Newly Added) The battery according to Claim 15, wherein the sum of the volume ratio of the adhesive resin and that of the filler per unit volume of said adhesive resin layer is less than 1.

20. (Newly Added) The battery according to Claim 19, wherein the sum of the volume ratio of the adhesive resin and that of the filler per unit volume of said adhesive resin layer is 0.2 to 0.8.

21. (Newly Added) The battery according to Claim 15, wherein said adhesive resin layer is constituted so as to fill the vacancies formed in the interface between each electrode and the separator which is attributable to the unevenness of the electrode and the separator.

22. (Newly Added) The battery according to Claim 15, wherein said battery body is a laminate of a plurality of electrode bodies each composed of a single layer of the positive electrode, a single layer of the separator and a single layer of the negative electrode.

23. (Newly Added) The battery according to Claim 22, wherein said laminate is formed

by interposing the positive electrode and the negative electrode alternately among a plurality of the separators.

24. (Newly Added) The battery according to Claim 22, wherein said laminate is formed by interposing the positive electrode and the negative electrode alternately between rolled separators.

25. (Newly Added) The battery according to Claim 22, wherein said laminate is formed by interposing the positive electrode and the negative electrode alternately between folded separators.

26. (Newly Added) The battery according to Claim 15, wherein the adhesive resin layer is porous and thereby contains electrolytes which permit the resin layer to exhibit ionic conductivity. --

#### **REMARKS**

Claims 3, 4 and 8 have been canceled. Claims 1, 2, 5-7 and 9-13 and newly added Claims 14-26 remain active in the case.

The present application is a continuation of application Serial Number 09/381,272 filed September 20, 1999. The present application is directed to embodiments of the application not covered in the parent application which has now been allowed.

Accordingly, the application is now believed to be in proper condition for consideration on its merits.

Respectfully submitted,

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**MARKED-UP COPY OF PRELIMINARY AMENDMENT**

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a positive electrode and a negative electrode each containing an active material;  
a separator holding an electrolyte; and  
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wherein said adhesive resin layer contains an electrically conductive filler, and at least one non-electrically conductive or semiconductive filler, the filler in the adhesive resin layer providing passages through the resin layer through which ions pass.

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